

ABSTRACT OF THE DISCLOSURE

A multiple-frequency common antenna has a first substrate sheet and a second substrate sheet respectively structured by an HIP consisting of a metal plate, small metal plates disposed in two dimensions and linear metal bars connecting these elements. The antenna restricts propagation of surface currents of the first and second frequency bands which are not overlapping with each other. An inverse L-shape antenna and a monopole antenna which are fed with a center conductor and an external conductor of the coaxial line respectively operate as the antenna on the first substrate sheet in the first frequency band and second frequency band. The second substrate sheet does not propagate the radiated wave of the monopole antenna, thereby avoiding unwanted re-radiation.